

AP3 Padlock Use in Winter

The AP3 Armored Padlock from Sera4 is rated IP66 and for temperature conditions from -34°C (-29°F) to 70°C (158°F), covering the extremes in most countries world-wide.

Winter poses specific challenges for padlock use, regardless of manufacturer/model. A keyless padlock contains electronics and a battery. While the challenges of ice and cold are the same, different methods may be more effective to unlock your AP3 keyless padlock successfully in winter conditions.

This document provides you with detailed advice on how to get the best from an AP3 Padlock in winter environments.

AP3 Padlock Operation

AP3 LED Status Indicator	
Green	Locked
Red	Unlocked
Blue	Connected to a mobile device

Note: If your mobile device is connected to the AP3 (Blue LED), you may use the on-screen lock icon to see the current lock status.

AP3 Motorized Opening

The AP3 opens by rotation of an internal motor, releasing the shackle. Under normal conditions, a spring forces the shackle up to the unlocked position.

Note: If the shackle does not pop up during an **Unlock** operation, the AP3 will return to the locked state (Green LED). This is a safety feature that prevents leaving the AP3 in a state where it appears locked, but can be pulled open without the Teleporte application.

Warning! Do not attempt to pull on the shackle when attempting to open the AP3. Pulling on the shackle may prevent the motor from rotating fully and opening the AP3.

It may be difficult to open the AP3 when the shackle is jammed because of too much weight or downward pressure or is not moving freely due to ice/snow.

Use the following guide for reliable AP3 operation in winter conditions.

Freezing Rain and Ice Buildup



The AP3 does not have an external keyhole that can be frozen due to water and ice. However, like a normal padlock, snow and freezing rain can lead to ice formation around the points where the shackle meets the padlock body.



Snow and ice can prevent movement/opening of the shackle

The following process includes suggested methods and strategies that will help open a frozen padlock.

Step 1	Use your hand to remove all snow and ice from the top of the shackle. Scan for any ice that may prevent the shackle from moving freely
Step 2	While locked, push and pull the shackle up and down several times to crack any <u>thin</u> amounts of ice that may have formed around the shackle; there is typically about 1-2mm (1/16") of shackle movement in a locked AP3.
Step 3	<p>For thicker amounts of ice and snow, additional measures may be taken:</p> <p>Optional Method: The AP3 is IP66 rated; you may remove the rubber cover and can pour warm water over the top of the shackle to melt and remove ice. Note this method may cause additional water buildup and freezing if not opened quickly.</p> <p>Optional Method: Automotive Lock De-icer can be applied around the areas where the shackle touches the lock body to remove ice</p>

	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>In your attempts to remove ice/snow, be kind to the sensitive electronic components and the battery inside.</p> <p><u>DO NOT STRIKE</u> or hit or chisel the AP3 with a hammer or other tool. <u>DO NOT SLAM</u> the AP3 against the gate, cabinet, fence, or ground. <u>DO NOT HEAT</u> the padlock with a lighter, torch, or other heating tool.</p>
<p>Step 4</p>	<p>Repeat attempts to Unlock or Unlatch the AP3 using the Teleporte mobile application.</p>
<p>Step 5</p>	<p>When unlocking the AP3, use the Unlatch functionality offered in the top right menu of the Teleporte application</p> <ul style="list-style-type: none"> - After selecting “Unlatch”, wait 3 seconds for the AP3 to move the motor to the unlatch position (Red LED will persist) - If the shackle did not release and open on its own, and the Red LED is displayed (or the lock icon continues to show open) you may <u>now</u> pull the shackle up/out with increased force and pressure to “unstick” the shackle and open the AP3. <p>Warning! Leaving the padlock in the Unlatch mode (Red LED), means that if you were unsuccessful at releasing the shackle, it may (in future) release on its own at any time.</p> <p>You must use the Teleporte mobile application (menu, top right) to Latch the padlock allowing it to lock again (return to Green LED status).</p>

Extended Troubleshooting

Shackle won't release after clearing ice and snow

If all steps above fail to release the shackle, the problem may be due to a low battery voltage. The charge delivery capacity for a battery is reduced at the coldest temperatures.

Action: Try to open the AP3 with an external power source connected to the USB port on the padlock. Repeat the above steps (4 and 5) to ensure the motor has enough power to move the proper position for further troubleshooting.

Mobile device can see the AP3 in the Teleporte mobile application, but cannot reliably connect to the AP3 to show the Unlock button

There are situations where ice and water buildup at the bottom of the AP3 can affect Bluetooth radio connectivity.

Action: Take off the silicone case and clear off any accumulated moisture or ice at the bottom of the padlock. Try to connect again.

Prevention

To avoid ice/snow buildup and the problems associated with outdoor winter weather exposure, it is **highly recommended** to cover the padlock to avoid rain/snow/ice buildup that tend to cause freezing.

Sera4 sells a weather guard pouch specifically designed to protect AP3 in winter conditions.



Sera4-recommended protection sleeve (Order Sera4 Part Number AP3-WG)

Alternatively, a covered protection to minimize snow and rain from directly falling onto the AP3 will help



Leather, vinyl, or rubber tarp can be affixed over the top of the shackle

Alternate ideas

Water repelling products (like WD40®) can be applied to the shackle to prevent water buildup. However, it should be noted these need to be reapplied often to maintain their application advantage.

Bags (plastic or canvas) can be used to prevent rain/ice formation on top of the AP3. Note however, these products don't often stand up to regular/frequent use.

Still having problems after following these instructions?

Email cx@sera4.com or call +1 226 312 2030 for immediate assistance.

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